

a stator including a stator valve surface and a plurality of function compartments opening into the stator valve surface;

a rotor rotatably coupled to the stator and including a rotor valve surface in communication with the stator valve surface, a plurality of flow paths for receiving adsorbent material therein, and a plurality of apertures provided in the rotor valve surface and in communication with the flow paths for cyclically exposing the flow paths to the function compartments; and

a surge absorber fluidly coupled to a plurality of function compartments opening into the stator valve surface by a corresponding plurality of parallel, independent flow paths, for reducing pressure variations in the function compartments.

A marked-up version of the amended claim is attached as a separate page, under the heading "MARKED-UP CLAIM"

REMARKS

Claims 1 - 9 are pending. Claim 1 is independent.

The Examiner has indicated that claims 2 - 9 contain allowable subject matter, for which the Applicant kindly thanks the Examiner.

Claim 1 has been amended and the Applicant submits that the amended claim 1 is consistent with the description in the application and, therefore, does not introduce new matter. Claim 1 has been amended to recite, *inter alia*,:

"a surge absorber fluidly coupled to a plurality of function compartments opening into the stator valve surface by a corresponding plurality of parallel independent flow paths, for reducing pressure variations in the function compartments"

Support for this amendment is found in Figures 12 and 13, where surge absorbers are shown to be fluidly coupled to two (Figure 12) or more (Figure 13) function compartments.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by Publication No. WO 97/39821. In particular, the Examiner is of the view that Publication No. WO 97/39821 teaches a gas separation system for extracting gas fractions from a gas mixture, comprising a stator having a stator valve surface and a plurality of function compartments, a rotor coupled to the stator and having a valve surface in communication with the stator valve surface, a plurality of flow paths for receiving adsorbent material, apertures in the rotor valve surface for exposing the flow paths to the function compartments, and at least one surge compartment that can be disposed between compression equipment and the stator for reducing pressure variations in the function compartments, wherein the at least one surge compartment is in communication with a plurality of function compartments.

In response, the Applicant submits that the subject invention, as defined by the amended claim 1, is patentable over the cited reference.

Claim 1 defines a gas separation system for extracting a first gas fraction and a second gas fraction from a gas mixture including the first and second gas fractions, the gas separation system comprising:

a stator including a stator valve surface and a plurality of function compartments opening into the stator valve surface;

a rotor rotatably coupled to the stator and including a rotor valve surface in communication with the stator valve surface, a plurality of flow paths for receiving adsorbent material therein, and a plurality of apertures provided in the rotor valve

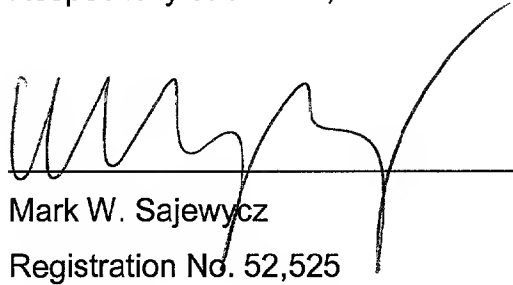
surface and in communication with the flow paths for cyclically exposing the flow paths to the function compartments; and

a surge absorber fluidly coupled to a plurality of function compartments opening into the stator valve surface by a corresponding plurality of parallel, independent flow paths, for reducing pressure variations in the function compartments.

Unlike the invention as claimed in claim 1, Publication No. WO 97/39821 discloses a gas separation system with a rotor and a stator, and surge chambers (e.g. 108 and 110) wherein each of the surge chambers is fluidly coupled to a single function compartment of the stator. Notably, the invention as claimed in claim 1 defines a gas separation system including a stator and a rotor rotatably coupled to the stator, and at least one surge absorber, wherein each of the at least one surge absorber is fluidly coupled to a plurality of function compartments opening into the stator surface by a corresponding plurality of parallel independent flow paths. By configuring the system such that each surge absorber is fluidly coupled to a plurality of function compartments by a corresponding plurality of parallel, independent flow paths, the number of surge absorbers required for a given number of function compartments is reduced, thereby reducing space demands and simplifying connections between surge absorbers and compression machinery or other unit operations. As such, the Applicant submits that the invention as claimed in claim 1 is patentable over the cited references.

Applicant respectfully requests entry of the amendments, favourable consideration, and an early Notice of Allowability. The Examiner is invited to contact Applicant's undersigned attorney at his office in Toronto at 416-862-5795 to resolve any remaining issues.

Respectfully submitted,



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MARKED-UP CLAIM

1. A gas separation system for extracting a first gas fraction and a second gas fraction from a gas mixture including the first and second fractions, the gas separation system comprising:

a stator including a stator valve surface and a plurality of function compartments opening into the stator valve surface;

a rotor rotatably coupled to the stator and including a rotor valve surface in communication with the stator valve surface, a plurality of flow paths for receiving adsorbent material therein, and a plurality of apertures provided in the rotor valve surface and in communication with the flow paths for cyclically exposing the flow paths to the function compartments; and

a [at least one] surge absorber, [wherein each of the at least one surge absorber is] fluidly coupled to a plurality of function compartments opening into the stator valve surface by a corresponding plurality of parallel, independent flow paths, for reducing pressure variations in the function compartments.

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